

Positive Automatic Cognition in Major Affective Disorder

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This article reports 2 studies assessing the clinical validity of the Positive Automatic Thoughts Questionnaire (ATQ-P). In the 1st study, clinically depressed inpatients showed reliably lower ATQ-P scores than a nondepressed control group. In the 2nd study, the specificity of the ATQ-P to emotional distress was evaluated by examining responses in a chronic pain sample. Results indicated that depressed but not nondepressed pain patients had significantly lower scores on the ATQ-P than healthy control Ss. On the basis of these data, the ATQ-P appears to be an appropriate measure for assessing positive cognition in psychopathology.

The Automatic Thoughts Questionnaire (ATQ-N; Hollon & Kendall, 1980) is among the most widely used measures of negative cognition in depression. Partly in response to proposals suggesting the importance of assessing both negative and positive thinking in dysfunction (e.g., Heimberg, Acerra, & Holstein, 1985; Schwartz & Garamoni, 1986), Ingram and Wisnicki (1988) recently developed a counterpart to the ATQ-N, the Positive Automatic Thoughts Questionnaire (ATQ-P). The ATQ-P is intended to assess the frequency of positive self-statements reported by individuals. Ingram and Wisnicki suggested that the ATQ-P shows promise in investigating the association between positive and negative thought in depression, examining this association in relation to therapeutic change, and testing theories concerning generalized deficits in positive cognition in psychopathology.

Initial reliability and validity data reported on the ATQ-P suggest that the measure adequately discriminates between subclinically depressed and nondepressed individuals. Although reliability and validity data have proven satisfactory in a subclinical population, the validity of the ATQ-P for assessing positive cognition in major affective disorder is unclear. Therefore, the first purpose of this article was to validate the ATQ-P for assessing the frequency of positive cognition in a sample of individuals diagnosed with major affective disorder.

Results reported by Ingram and Wisnicki (1988) show that scores on the ATQ-P are inversely related to both depressive and anxious affect and thus suggest that the ATQ-P should be nonspecific with regard to emotional distress and psychiatric diagnosis; because positive cognition is a quite broad and general form of thought, a decrease in positive thinking should occur regardless of the kind of emotional distress experienced. It

is not clear, however, if such decreases are limited to emotional problems or extend to significant stress that is not accompanied by emotional distress. Therefore, a second purpose of this article was to assess the specificity of the ATQ-P for measuring positive cognition in emotional distress.

Two studies examined these issues. In the first, the ATQ-P was administered to clinically depressed psychiatric inpatients. This study thus provided initial data on ATQ-P responses in a clinically disabled sample. To test the specificity of the ATQ-P to emotional distress, the second study examined ATQ-P scores in a sample of chronic pain patients who were diagnosed according to whether major affective disorder was present. This population therefore not only allowed for a further clinical validation of the ATQ-P with a clinically depressed sample but also of whether scores on the measure are specific to emotional distress or are also linked to debilitating life stress such as chronic pain.

Study 1: Positive Cognition in Depressed Inpatients

Subjects and Procedure

Subjects were 15 depressed inpatients and 11 nondepressed nonpsychiatric controls. Inclusion criteria for depressed subjects included (a) a diagnosis of major depressive episode, (b) a Beck Depression Inventory (BDI; Beck, 1967) score of 16 or greater, (c) age between 18 and 65 years, and (d) no evidence of bipolar disorder, any organic mental disorder, or substance abuse disorder.

Patients who received an initial diagnosis of depression by their attending psychiatrist were subsequently and independently evaluated using the Diagnostic Interview Schedule (DIS; Robins, Helzer, Croughan, & Ratcliff, 1981) according to criteria from the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* (American Psychiatric Association, 1987). Patients receiving a diagnosis of major de-

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Table 1
Mean Scores for Depressed Inpatient and Control Subjects

Measure	Depressed		Control	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
BDI	31.33	11.50	1.64	1.57
Age (years)	40.07	5.81	32.35	6.91
Education (years)	15.07	2.06	15.74	1.80
Hospitalizations (previous)	1.03	1.52	—	—
ATQ-P	64.53	21.99	103.01	26.05

Note. BDI = Beck Depression Inventory; ATQ-P = Positive Automatic Thoughts Questionnaire.

pressive disorder on both occasions were included in the study and were tested within 1 week of hospital admission. The sample was composed of 12 women and 3 men.

Control subjects were recruited from various psychology classes at San Diego State University. Inclusion criteria for these subjects included (a) no evidence of any current disorder as assessed by a clinical interview and (b) a BDI score of 8 or below. The minimum age for control subjects was 24, an age equivalent to the youngest depressed subject tested. There were 3 men and 8 women in the control group. Data on ethnicity or race were not collected.

As in previous research (Ingram & Wisnicki, 1988), subjects completed a measure that included the ATQ-N and ATQ-P items randomly mixed together. For the purposes of this study, however, only the ATQ-P results are presented. Each measure contains 30 self-statements and asks subjects to rate the frequency of occurrence over the past week on a 1 (*never*) to 5 (*all of the time*) scale. A complete list of ATQ-P items is described by Ingram and Wisnicki (1988).

Results

Sample characteristics are presented in Table 1. As can be seen from this table, subjects were quite comparable in terms of average level of education. Depressed subjects were somewhat older than control subjects, and a *t* test confirmed that this difference was statistically reliable, $t(24) = 3.32, p < .01$. ATQ-P means are also presented in Table 1. The difference between depressed and control subjects on ATQ-P scores was signifi-

cant, $t(24) = 3.72, p < .01$. Analyses covarying out the effect of age produced identical results on the ATQ-P. These results therefore demonstrate that clinically depressed inpatients score reliably lower on the ATQ-P. Because a nonpsychiatric patient control group was not included in this study, however, the possibility that effects were due to patient status rather than depression status cannot be ruled out. Study 2 addressed this possibility.

Study 2: Positive Cognition in a Clinically Depressed Chronic Pain Population

Subjects and Procedures

Patients in this study were 79 men experiencing chronic lower back pain (CLBP) who were attending a general orthopedic clinic. Inclusion criteria were (a) being within ages 21 to 64 years, (b) lower back pain present on a daily basis for the previous 6 months or longer, and (c) CLBP as the primary medical complaint. Patients were excluded from the study if they had (a) a major coexisting illness (e.g., chronic obstructive pulmonary disease), (b) orthopedic or pain problems not related to the low back, (c) major surgery less than 1 year before evaluation, or (d) organic brain syndrome or a disorder with psychotic features.

Patients were classified into three groups on the basis of level of depressive symptomatology. A nondepressed pain group ($n = 45$) was defined as those subjects who were not depressed according to the study criteria. A subclinically depressed pain group ($n = 22$) was composed of subjects who scored 10 or above on both the BDI and the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) but who did not meet diagnostic criteria for affective disorder. Finally, a clinically depressed group ($n = 12$) was defined as those patients with a current major affective disorder, diagnosed using the DIS and using *DSM-III* criteria.

A control group was composed of 41 healthy, pain-free, sociodemographically matched male volunteers without depressed mood or affective disorder. There were no significant age or ethnic/race differences between groups; on the whole, approximately 90% of the sample were white working-class men. Additionally, no significant pain-related differences between the pain groups were found. Group means and standard deviations for the depression measures are presented in Table 2.

All subjects completed a measure that included the ATQ-P

Table 2
Mean Scores for Control and Outpatient Pain Subjects

Measure	Control subjects				Depressed subjects			
	Healthy		CLBP		CLBP subclinically		CLBP clinically	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
BDI	2.56	0.45	5.04	0.35	18.68	1.30	22.92	2.04
HRSD	1.15	0.26	3.18	0.40	15.64	1.02	21.83	1.81
ATQ-P	102.12	4.14	104.18	3.27	89.14	4.36	81.41	5.71

Note. CLBP = Chronic low back pain; BDI = Beck's Depression Inventory; HRSD = Hamilton Rating Scale for depression; ATQ-P = Positive Automatic Thoughts Questionnaire.

and ATQ-N items randomly mixed together, although again only the ATQ-P results are presented.

Results

A one-way analysis of variance on ATQ-P scores revealed a significant effect, $F(3, 116) = 4.60$. As can be seen from Table 2, pairwise comparisons indicated no significant differences between the clinically and subclinically depressed groups nor between the nondepressed pain and control groups. A comparison examining the difference between the combined depressed (clinical and subclinical) and nondepressed (nondepressed-pain and control) groups, however, did indicate a significant difference, $t(116) = 3.59, p < .001$.

Use of the same measure in two separate studies allows for the direct comparison of results. As can be seen from Tables 1 and 2, the mean ATQ-P scores for the control groups (college student controls, volunteer controls, and CLBP controls) are quite similar and are virtually identical to the normative group mean ($M = 103.31$) reported by Ingram and Wisnicki (1988). For depressed subjects, clinically depressed inpatients had significantly fewer positive thoughts than either the clinically depressed pain outpatients, $t(25) = 2.07, p < .05$, or the subclinically depressed pain outpatients, $t(35) = 3.31, p < .005$.

Discussion

The results of these studies support the validity of the ATQ-P as a measure of positive cognition in clinically significant psychopathology. The first study indicated that depressed inpatients reported significantly fewer positive thoughts than did control subjects. The data from Study 2 provided further support for the validity of the ATQ-P in a clinically depressed population and additionally suggested that scores on the measure are relatively specific to emotional as opposed to physical distress; findings from this study indicated that although depressed pain patients reported decreased positive thinking, nondepressed chronic pain patients did not indicate fewer positive thoughts than healthy control subjects. This latter result also suggests that lower ATQ-P scores are a function of emotional distress rather than of simply being a patient. The ATQ-P also appears valid for measuring positive thinking constructs in both inpatients and outpatients, and in both women (who comprised most of the subjects in Study 1) and men (Study 2). This lack of sex differences is consistent with initial reports on the ATQ-P by Ingram and Wisnicki (1988). Finally, scores for the nondepressed control groups were highly similar to the normative group means reported by Ingram and Wisnicki and thus indirectly support the reliability of the scale across samples.

Comparisons between Studies 1 and 2 reveal some interesting implications. Even though clinically depressed patients in the chronic pain sample were diagnosably depressed, they reliably reported more positive automatic self-statements than did depressed inpatients. Because of its hospital treatment status and

psychometric data (e.g., BDI $M = 31.33$), the inpatient group appeared to be more severely depressed than did the clinically depressed pain group (e.g., BDI $M = 22.92$). Consistent with earlier findings reported by Ingram and Wisnicki (1988), it appears that level of depression may worsen as positive automatic thinking progressively deteriorates (or vice versa). Thus, whereas such thinking may deteriorate only moderately in relatively milder affective distress, it declines more substantially in severe affective disorder.

If it is the case that the largest declines in positive thinking are seen only when the affective disorder has become severe, several questions for future research are suggested. For example, if positive thinking deteriorates at a relatively slow rate until the psychological disturbance worsens significantly, it is possible that depressed individuals in the earliest stages of remission may start to think positively even though they are still experiencing negative thinking. These data thus suggest that an appropriate question for future studies is a longitudinal examination of the relative changes in positive and negative thought over time in depressed individuals. Similarly, treatment studies assessing cognitive change variables are also important in determining whether positive thinking is the first to show change as the individual begins to improve clinically. Given the current data on subjects with diagnosed affective disorder, the ATQ-P appears to be an appropriate measure to assess these as well as other questions in clinical populations.

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Received June 20, 1989

Revision received August 29, 1989

Accepted October 11, 1989 ■

